What is claimed is:

1. A composition comprising an enzyme, a dye, and an effective amount of a surfactant selected from the group of a nonionic surfactant, a zwitterionic surfactant, and a mixture thereof, wherein the dye inactivates the enzyme in the absence of the surfactant, and the surfactant inhibits such inactivation.

2. The composition of claim 1 wherein the dye is selected from the group of a near-IR dye, a uv/visible dye, a fluorescent dye, and a mixture thereof.

3. The composition of claim 2 wherein the dye is a near-IR dye.

4. The composition of claim 3 wherein the near-IR dye is a diimminium dye or a cyanine dye.

5. The composition of claim 1 wherein the enzyme is a polymerase or a ligase.

6. The composition of claim 1 wherein the nonionic surfactant is selected from the group of esters of fatty acids and polyhydric alcohols, fatty acid alkanolamides, ethoxylated fatty acids, ethoxylated aliphatic acids, ethoxylated fatty alcohols, ethoxylated aliphatic alcohols, ethoxylated sorbitol fatty acid esters, ethoxylated glycerides, ethoxylated block copolymers with EDTA, ethoxylated cyclic ether adducts, ethoxylated amide and imidazoline adducts, ethoxylated amine adducts, ethoxylated mercaptan adducts, ethoxylated condensates with alkyl phenols, ethoxylated nitrogen-based hydrophobes, ethoxylated polyoxypropylenes, polymeric silicones, fluorinated surfactants, polymerizable surfactants, and mixtures thereof.

7. The composition of claim 1 wherein the zwitterionic surfactant is selected from the group of alkylamido betaines and amine oxides thereof, alkyl betaines and amine oxides thereof, sulfo betaines, hydroxy sulfo betaines, amphoglycinates,

amphopropionates, balanced amphopolycarboxyglycinates, and alkyl polyaminoglycinates, and mixtures thereof.

8. The composition of claim 1 wherein the dye is present at a concentration of at least about 0.005 mg/mL.

9. The composition of claim 1 wherein the effective amount of surfactant is at least about 0.5 wt-%.

10. The composition of claim 9 wherein the effective amount of surfactant is no greater than about 20 wt-%.

11. The composition of claim 1 further comprising a buffer.

12. The composition of claim 1 further comprising a dinucleotide triphosphate.

13. The composition of claim 1 further comprising a reference dye.

14. The composition of claim 1 further comprising an antioxidant.

15. The composition of claim 14 wherein the dye is capable of optical degradation.

16. The composition of claim 1 wherein the surfactant is an antioxidant.

17. A composition comprising a polymerase enzyme, a near-IR dye, and an effective amount of a surfactant selected from the group of a nonionic surfactant, a zwitterionic surfactant, and a mixture thereof, wherein the near-IR dye inactivates the enzyme in the absence of the surfactant, and the surfactant inhibits the inactivation.

18. A composition comprising:

a polymerase enzyme;

a near-IR dye selected from the group of a diimminium dye, a cyanine dye, and a mixture thereof; and

an effective amount of a nonionic surfactant;

wherein the near-IR dye inactivates the enzyme in the absence of the surfactant, and the surfactant inhibits the inactivation.

19. A composition comprising:

a polymerase enzyme;

a near-IR dye selected from the group of a diimminium dye, a cyanine dye, and a mixture thereof; and

an effective amount of a nonionic surfactant selected from the group of esters of fatty acids and polyhydric alcohols, fatty acid alkanolamides, ethoxylated fatty acids, ethoxylated aliphatic acids, ethoxylated fatty alcohols, ethoxylated aliphatic alcohols, ethoxylated sorbitol fatty acid esters, ethoxylated glycerides, ethoxylated block copolymers with EDTA, ethoxylated cyclic ether adducts, ethoxylated amide and imidazoline adducts, ethoxylated amine adducts, ethoxylated mercaptan adducts, ethoxylated condensates with alkyl phenols, ethoxylated nitrogen-based hydrophobes, ethoxylated polyoxypropylenes, polymeric silicones, fluorinated surfactants, polymerizable surfactants, and mixtures thereof;

wherein the near-IR dye inactivates the enzyme in the absence of the surfactant, and the surfactant inhibits the inactivation.

20. A method of stabilizing an enzyme in a fluid sample in the presence of a dye under conditions that normally inactivate the enzyme, the method comprising combining an effective amount of a surfactant selected from the group of a nonionic surfactant, a zwitterionic surfactant, and a mixture thereof, with the enzyme and the dye, wherein the surfactant inhibits inactivation of the enzyme.

21. The method of claim 20 wherein the dye is selected from the group of a near-IR dye, a uv/visible dye, a fluorescent dye, and a mixture thereof.

22. The method of claim 21 wherein the enzyme is a polymerase or a ligase.

23. The method of claim 20 wherein the surfactant is a nonionic surfactant selected from the group of esters of fatty acids and polyhydric alcohols, fatty acid alkanolamides, ethoxylated fatty acids, ethoxylated aliphatic acids, ethoxylated fatty alcohols, ethoxylated aliphatic alcohols, ethoxylated sorbitol fatty acid esters, ethoxylated glycerides, ethoxylated block copolymers with EDTA, ethoxylated cyclic ether adducts, ethoxylated amide and imidazoline adducts, ethoxylated amine adducts, ethoxylated mercaptan adducts, ethoxylated condensates with alkyl phenols, ethoxylated nitrogen-based hydrophobes, ethoxylated polyoxypropylenes, polymeric silicones, fluorinated surfactants, polymerizable surfactants, and mixtures thereof.

24. A method of stabilizing a polymerase enzyme in solution in the presence of a near-IR dye under conditions that normally inactivate the enzyme, the method comprising combining an effective amount of a nonionic surfactant with the enzyme and the dye, wherein the surfactant inhibits inactivation of the enzyme.

25. A method of conducting a thermal process, the method comprising:

providing a sample mixture comprising a biological material, an enzyme, an effective amount of a surfactant selected from the group of a nonionic surfactant, a zwitterionic surfactant, and a mixture thereof, and a dye at a first temperature; and

directly heating the sample mixture to a second temperature higher than the first temperature;

wherein the dye inactivates the enzyme in the absence of the surfactant and the surfactant inhibits the inactivation.

26. The method of claim 25 further comprising cooling the sample mixture and directly reheating the sample mixture in a thermal cycling process.

27. The method of claim 26 wherein the thermal cycling process comprises at least about 25 cycles.

28. The method of claim 27 wherein the first temperature is within a range of about 0°C to about 50°C.

29. The method of claim 27 wherein the second temperature is within a range of about 50°C to about 95°C.

30. The method of claim 27 wherein the thermal cycling process comprises heating between a temperature of about 50°C and about 95°C.

31. A method of conducting a thermal cycling process, the method comprising:

providing a device comprising at least one process chamber that defines a volume for containing a sample mixture comprising a biological material, an enzyme, a dye, and a surfactant selected from the group of a nonionic surfactant, a zwitterionic surfactant, and a mixture thereof;

delivering electromagnetic energy to the process chamber to raise the temperature of the sample material in the process chamber, wherein the dye converts the electromagnetic energy into thermal energy;

wherein the surfactant inhibits interaction between the enzyme and the dye.

32. The method of claim 31 wherein the dye is a near-IR dye.

33. The method of claim 31 wherein the surfactant is a nonionic surfactant selected from the group of esters of fatty acids and polyhydric alcohols, fatty acid alkanolamides, ethoxylated fatty acids, ethoxylated aliphatic acids, ethoxylated fatty alcohols, ethoxylated aliphatic alcohols, ethoxylated sorbitol fatty acid esters, ethoxylated glycerides, ethoxylated block copolymers with EDTA, ethoxylated cyclic ether adducts, ethoxylated amide and imidazoline adducts, ethoxylated amine adducts, ethoxylated mercaptan adducts, ethoxylated condensates with alkyl phenols, ethoxylated nitrogen-

based hydrophobes, ethoxylated polyoxypropylenes, polymeric silicones, fluorinated surfactants, polymerizable surfactants, and mixtures thereof.

34. The method of claim 31 wherein the sample mixture further comprises an antioxidant.

35. The method of claim 31 wherein the surfactant is present in an amount of at least about 0.5 wt-%.

36. The method of claim 35 wherein the surfactant is present in an amount of no greater than about 20 wt-%.

37. The method of claim 31 wherein the sample mixture further comprises a buffer.

38. The method of claim 31 wherein the sample mixture further comprises a dinucleotide triphosphate.

39. The method of claim 31 wherein the sample mixture further comprises a reference dye.

40. The method of claim 31 wherein the enzyme is a polymerase or a ligase.

41. A method of conducting a thermal cycling process comprising:

providing a device comprising at least one process chamber that defines a volume for containing a sample mixture comprising a biological material, a polymerase enzyme, a near-IR dye, a nonionic surfactant, and a dinucleotide triphosphate;

delivering electromagnetic energy to the process chamber to raise the temperature of the sample material in the process chamber, wherein the dye converts the electromagnetic energy into thermal energy;

wherein the surfactant inhibits interaction between the enzyme and the dye.

42. The method of claim 41 further comprising cooling the sample mixture and reheating the sample mixture in a thermal cycling process.

43. The method of claim 42 wherein the thermal cycling process comprises at least about 25 cycles.

44. The method of claim 42 wherein the thermal cycling process comprises heating between a temperature of about 50°C and about 95°C.

45. A method of denaturing hydrogen-bonded molecules, the method comprising:

providing a sample mixture comprising hydrogen-bonded molecules, an enzyme, an effective amount of a surfactant selected from the group of a nonionic surfactant, a zwitterionic surfactant, and a mixture thereof, and a dye at a first temperature; and

directly heating the sample mixture to a second temperature higher than the first temperature effective to denature the hydrogen-bonded molecules;

wherein the dye inactivates the enzyme in the absence of the surfactant and the surfactant inhibits the inactivation.